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IMPROVING SCREENING AND OUTCOMES FOR POSTPARTUM DEPRESSION

by

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A Capstone

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Doctor of Nursing Practice

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This capstone, submitted by Elizabeth L. Jahn in partial fulfillment of the requirements for the Degree of Doctor of Nursing Practice from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

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This capstone is being submitted by the appointed advisory committee as having met all of the requirements of the University of North Dakota and is hereby approved.

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PERMISSION

Title Improving Screening and Outcomes for Postpartum Depression
Department College of Nursing
Degree Doctor of Nursing Practice

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Elizabeth L. Jahn

July 17, 2015

Abstract

Postpartum depression affects an estimated 20% of all mothers. The World Health Organization has identified major depression as the fourth leading cause of burden among all diseases with an estimated cost to the United States of \$30 billion to \$50 billion in lost productivity and direct medical costs annually. Standardized screening for postpartum depression is lacking, or in some cases non-existent at many health care facilities in the United States placing mothers, their children, families, and communities at increased risks for the adverse effects of postpartum depression. These effects include increased childhood developmental delays, increased neglect and child maltreatment, poor health outcomes for mothers and children, and sometimes death. Education on postpartum depression and implementation of standardized screening for postpartum depression using the Edinburgh postnatal depression tool at a rural Midwest medical center was implemented to facilitate improved screening rates, identification of postpartum depression, and subsequent treatment. Following completion of the DNP capstone, rates of screening and identification of postpartum depression were increased by 43%. Knowledge and comfort in recognition, discussion, and screening for postpartum depression increased by 67% among providers and nurses. The DNP capstone provided an opportunity for clinical practice change among these healthcare providers and healthcare improvement for postpartum women and their families.

Improving Screening and Outcomes for Postpartum Depression

Background and Significance

Postpartum depression (PPD) is defined by the Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-5) as a depressive episode with moderate to severe intensity that begins four weeks after delivery (American Psychiatric Association [APA], 2013), but can occur up to one year following the birth of the baby (American Congress of Obstetricians and Gynecologists [ACOG], 2013). While the onset can vary, typically postpartum depression is identified or diagnosed between one and six weeks postpartum. Prevalence is higher in those women who were diagnosed with depression during or prior to their pregnancy. While every woman is susceptible to postpartum depression, certain risk factors exist and correlate with higher rates of postpartum depression. Some of the most commonly cited risk factors for PPD include women who are unmarried, have low socioeconomic status, are adolescents, have completed less education, are mothers of premature infants, have had an unplanned or emergency cesarean delivery, have had a previous diagnosis of depression or PPD, or are mothers of infants with disabilities or medical complications (Pessagno & Hunker, 2013).

Clinical manifestations of PPD include inability to sleep or sleeping too much; mood swings; changes in appetite; fear of harming self or the infant; extreme concern and worry about the baby; sadness or excessive crying; feelings of doubt, guilt and helplessness; difficulty concentrating and remembering; loss of interest in hobbies and usual activities; and recurrent thoughts of death which may include suicidal ideation (Patel, et al. 2012). Duration of effects for those who suffer from PPD can range from

months to a lifetime, making early identification and intervention of great importance for these women.

The 2013 preliminary number of births for the United States was 3,932,181. Approximately 400,000 of those infants are born to mothers who are depressed (CDC, 2010) and at least fifteen million children in the United States are cared for by parents suffering from depression (Chrisler, Blasbert, Forry & Tout, 2013). Based on self-reported questionnaires and clinical interviews, prevalence of PPD is estimated to affect 5.2% to 74% of postpartum women in developed countries (Norhayati, Nik Hazlina, Asrenee & Wan Emilin, 2015). According to a review of statistics from the Centers for Disease Control (CDC), National Institute of Health (NIH), United States Department of Health and Human Services, American Psychological Association and American Congress of Gynecology and Obstetricians, it has been consistently estimated and reported that the rate of postpartum depression in the United States is 15-20% of all postpartum women. Comparatively, the Minnesota Department of Health (MDH), reported that postpartum depression and anxiety affect approximately 20% of Minnesota women overall and close to 30% of Minnesota women living within low-income communities (MDH, 2015). State of Minnesota survey data indicated approximately one in ten new mothers in Minnesota experienced major depression symptoms within the first year of her baby's life. The state of Minnesota reported 64,852 live births in 2013 (CDC, 2015). This equates to approximately 15,000 Minnesota mothers and infants who experience the adverse effects of maternal depression each year.

Consequential Effects

The mental health of a mother has a ripple effect with potential to negatively impact the cognitive, developmental, and physical health of the child as well as her entire family (Selix, 2015). If PPD is not recognized and addressed maternal depression and anxiety can interfere with critical maternal interactions, maternal infant attachment and nurturing that are crucial to stimulating brain development, including lower rates of breastfeeding. This in turn also negatively affects overall maternal quality of life, marital and personal relationships, and children's social and cognitive developmental outcomes (Letourneau, Dennis, Benzies, Duffett-Leger et al., 2012). Suicide has even been documented as a potential consequence of PPD (Schaar & Hall, 2013).

Financial impact. It is difficult to calculate exact costs associated with PPD, however reducing the prevalence of untreated maternal depression is likely to have several short and long term financial implications. High personal as well as public costs are associated with maternal depression in early childhood. Further consequences of unrecognized postpartum depression accounts for more lost days from work and higher medical costs for the mother and her child. Women of childbearing age represent 48% of the United States workforce and the majority of women who are working during pregnancy will return to work during the first year of the infant's life. The labor force participation rate of mothers with children under 18 years of age was 69.9 percent in 2013, 61.1 percent for mothers with children under three years of age, and 57.3 percent for mother of infants or those less than twelve months of age (2013 annual averages). In addition, depressed mothers are more likely to be unemployed (20% vs. 8%) and less likely to be employed full time (40% vs. 52%) when compared to mothers who aren't

depressed (Ertel, Rich-Edwards & Koenen, 2011). Overall, the time demands placed on a working mother and caring for an infant or young child are both physically and emotionally demanding, especially during the first year of the infants' life making these women particularly more vulnerable to depression.

Failure of the current system to recognize and intervene with maternal depression early has further financial implications. In Minnesota it is estimated that the yearly two-generation cost to the state's economy of not treating depression in each mother is at least \$23,000 per mother. Secondary financial effects of maternal depression like higher rates of special education for children, chronic health care costs and lost tax revenues from lost work days, cannot all be quantified meaning that \$23,000 per mother suffering from depression is likely an underestimation (Children's Defense Fund, 2011).

While the prevalence of PPD is consistently shown to be 15-20% of U.S. women, and up to 30% in particular populations, data related to the cost effectiveness of screening and prevention are lacking. Further, a lack of focus on prevention, screening and early intervention for postpartum depression is consistently cited in the literature. In order to determine the cost benefit of such change in clinical practice, research in this area is needed. There is however, a vast amount of documentation and proven financial benefit to the healthcare system for screening for depression in general. It is cited that depression accounts for more than \$43 billion in medical care costs and \$17 billion in lost productivity annually (Maurer & Darnall, 2012). Depression is projected to become the second largest cause of disability by 2020. These statistics and data have motivated guidelines and screening changes within healthcare.

Screening: Lack of Consensus

The United States Preventative Services Task Force (USPSTF) gives a grade ‘B’ clinical recommendation for use of the PHQ-2 as an accurate screening for depression in adolescents, adults and older adults when staff-assisted depression care supports are in place to assure accurate diagnosis, effective treatment, and follow-up (Maurer & Darnall, 2012). However, national guidelines specific to screening for PPD are much less clear, and consensus and agreement are lacking. The USPSTF does not have a recommendation for or against screening for postpartum depression. The American Academy of Family Physicians has no specific recommendations for postpartum depression and follows the general USPSTF recommendations for screening.

The most recent update from ACOG in May 2015 stated that although definitive evidence of benefit is limited, it is recommended that clinicians screen patients at least once during the perinatal period for depression and anxiety symptoms using a standardized, validated tool. Also in 2015, a newly added developmental objective for Healthy People 2020 recognized the need to decrease the proportion of women delivering a live birth who experience postpartum depressive symptoms. Finally, the American College of Nurse Midwives (ACNM) supports universal screening, treatment, and/or referral for depression in women as a part of routine primary health care.

Screening for PPD has significant room for improvement in the United States. Inconsistency and lack of consensus regarding best practice for this screening have created barriers, along with low rates of screening and recognition of this as a significant health problem for women, their children, and families. This same gap in clinical practice was also recognized by the DNP student investigator within a rural healthcare

center in the Midwest. Thus the DNP capstone was implemented as an opportunity for clinical practice change among healthcare providers and healthcare improvement for postpartum women and their families.

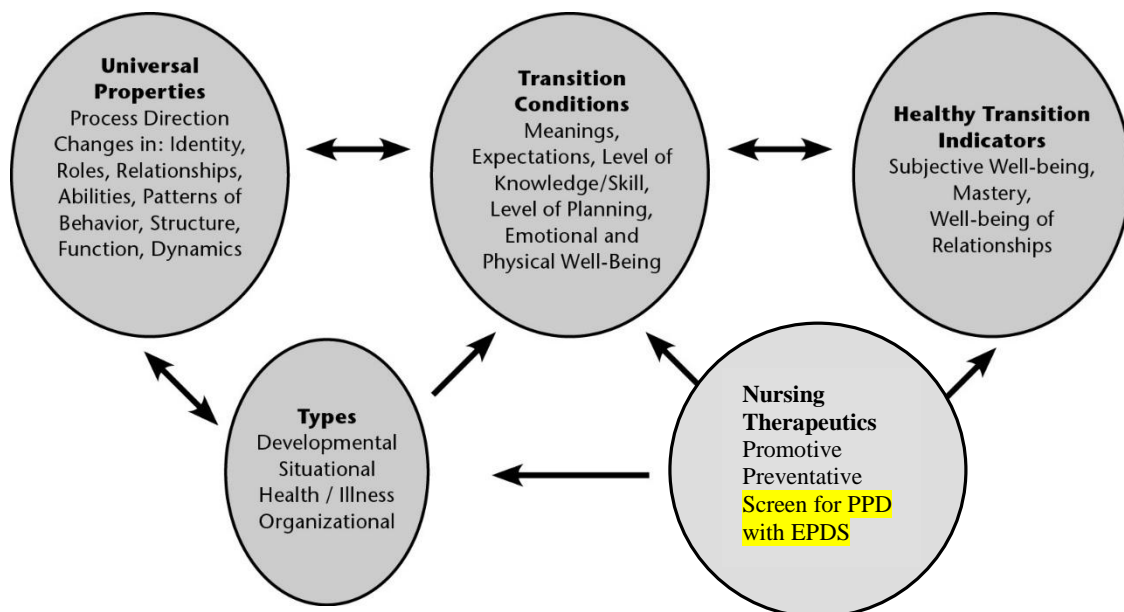
Theoretical Framework

The theoretical foundation for this DNP capstone is the Theory of Transition by middle range theorist, Afaf Meleis. Dr. Meleis notes that the transition a woman makes during the postpartum period is complex and multidimensional. Role change, physiological changes and relationship changes create potential for major postpartum depression to emerge. How each woman perceives herself throughout this transition may also impact her experience and influence whether or not she will experience increased difficulty throughout this process. The longer a woman remains in the transitional period with negative disruption, an even greater potential negative impact and disruption exists for the mother, her infant, her family and community. Through early recognition of disruption in their own human perception of the lived experience, transitions are likely to maintain fluency and increase the level of engagement from nursing, providers and patients.

It is during these critical transition points and events such as childbirth or events surrounding pregnancy that screening should serve as an intervention. Screening for postpartum depression has potential to reduce or eliminate a negative perceived role insufficiency by the mother and instead positively supplement and clarify the role and transition the mother is experiencing. If a woman is appropriately screened and subsequently identified as having PPD or found to be at a high risk for PPD, early

intervention can occur from the healthcare providers and system to encourage and promote the healthiest and safest transition for the mother, her child and family.

A proven effective screening tool for postpartum depression, The Edinburgh Postnatal Depression Scale (EPDS) (Cox, Holden & Sagovsky, 1987) already exists but it is underutilized in clinical practice secondary to a lack of provider knowledge about screening for PPD, a lack of supporting consensus regarding screening guidelines, and limited routine healthcare encounters with women during the postpartum period. If healthcare providers can recognize these obstacles, improved efforts can be taken to direct appropriate screening and improve outcomes for women, children and the community.



Adapted from Meleis, A. Sawyer, L., Im, E., Massias, D., & Schumacher, K. (2000)

Literature Review

This literature review examined current guidelines and practices for postpartum depression screening and treatment. Rates of postpartum depression as well as treatment

options and guidelines were also searched. Several search engines were used including CINAHL, PubMed, Med Line, Psychinfo, Science Direct, Google Scholar and Cochrane databases. Keywords used in the search included postpartum, depression, postnatal depression, prevalence, incidence, screening, Edinburgh Postnatal Depression Scale, suicide, pregnancy, and treatment. The searches identified hundreds of related materials and the search was narrowed with the following primary articles utilized for purposes of this literature review. Articles selected were peer reviewed with dates ranging from 2007-2015.

Postpartum Mood Disorder Spectrum

Postpartum depression is defined as a mood disorder that can affect women after childbirth. The spectrum of emotional disruption a woman can experience after childbirth ranges from its mildest, most common form of ‘baby blues’ to its most extreme form, postpartum psychosis. Rates of postpartum depression are consistently estimated to be 20% of all postpartum women although diagnosis of PPD is challenging given the fact that changes in sleep patterns, appetite, and excessive fatigue are often routine following delivery (Liberto, 2012; Pearlstein, Howard, Salisbury & Zlotnick, 2009).

Determining whether a woman is experiencing postpartum depression versus what the literature refers to as ‘baby blues’ can be difficult. Baby blues is a term that was created to describe the common symptoms of anxiety, irritability, and weepiness related to the birth of a child, most often linked to the abrupt hormonal changes that occur following childbirth. This occurs in 50-85% of woman following delivery. It peaks around the fourth day and resolves by the tenth day following delivery. The ‘baby blues’

are considered a normal physiological response to childbirth while a diagnosis of postpartum depression is not.

On the other end of the spectrum, postpartum psychosis is a rare illness that occurs in approximately one to two out of every 1,000 deliveries, or approximately 0.1% of all births. Symptoms of postpartum psychosis include delusions or strange beliefs, hallucinations, hyperactivity, extreme irritation, paranoia or suspiciousness, rapid mood swings or difficulty communicating at times. Of women who experience postpartum psychosis there is a 5% suicide rate and 4% infanticide rate associated with the illness (Sit, Rothschild & Wisner, 2006).

The DSM5 requires symptom onset to occur during pregnancy or within the four weeks following delivery to meet criteria for diagnosis of PPD (APA, 2013). Many disagree with this classification and support longer time frames, up to twelve months postpartum for diagnosis and classification of PPD (Bobo & Yawn, 2014). A major depressive disorder is diagnosed when a person exhibits five or more of the following symptoms: depressed mood; markedly diminished interest or pleasure in an activity; appetite disturbance; sleep disturbance; physical agitation or psychomotor retardation; fatigue; feelings of worthlessness; diminished concern or inability to make decisions; and recurrent thoughts of death or suicide (APA, 2013).

Mothers with postpartum depression experience feelings of extreme sadness, anxiety, and exhaustion that may make it difficult for them to complete daily care activities for themselves or for others. Postpartum depression does not have a single cause but likely results from a combination of physical and emotional factors. Postpartum depression does not occur because of something a mother does or does not do, which

places all women at risk for this problem (Lindahl, Pearson & Colpe, 2005). Certain risk factors have been identified as placing some at even higher than average risk of developing PPD. Low socioeconomic status, birth of first child, unmarried women, minorities, mothers of premature infants or infants with medical complications, and mothers who experience unplanned or emergency cesarean deliveries have been cited as having higher than average rates of PPD (Pearlstein, Howard, Salisbury & Zlotnick, 2009). In the absence of accepted guidelines for screening for postpartum depression, the individual clinician must determine how or even whether to screen for the illness (Goldsmith, 2007).

Screening Guidelines

The USPSTF does not have a recommendation for or against screening for postpartum depression. The American Academy of Family Physicians has no specific recommendations for postpartum depression and follows the general recommendations for screening of the USPSTF.

The most recent update from the ACOG in May 2015 states that although definitive evidence of benefit is limited, ACOG recommends that clinicians screen patients at least once during the perinatal period for depression and anxiety symptoms using a standardized, validated tool. They also state that although the adverse consequences of perinatal depression, as well as the benefits of its treatment, are clear, there is only limited evidence that screening to identify and treat this condition improves outcomes.

According to ACOG, women diagnosed or recognized as being at risk for PPD with a positive screening assessment or through clinical judgment, require follow-up

evaluation and treatment if indicated. Medical practices should have a referral process for identified cases. Women with current depression or a history of major depression warrant particularly close monitoring and evaluation.

ACOG also suggested an objective for Healthy People 2020 targeted at decreasing the proportion of women delivering a live birth who experience postpartum depressive symptoms. Healthy People is a set of goals and objectives with 10-year targets designed to guide national health promotion and disease prevention efforts to improve the health of all people in the United States. The American College of Nurse Midwives supports universal screening, treatment, and/or referral for depression in women as a part of routine primary health care. The ACNM has published position statements affirming the role of the Certified Nurse Midwife/Certified Midwife (CNM/CM) as a primary care provider and integrating depression care for all women (ACNM, 2002).

Minnesota has become a very proactive state in supporting awareness of maternal mental health. Since 2005 Minnesota has required hospitals to provide written information on postpartum depression before postpartum patients leave the facility. Data from the statewide annual survey of new mothers, Pregnancy Risk Assessment Monitoring System (PRAMS), indicated that the law was successful in increasing rates at which women receive information about PPD. Between 2002 and 2008 the percentage of women reporting they received information about the PPD before or after their babies' birth increased from 77% to 90%. Most recently on March 27th, 2015 Minnesota Governor Mark Dayton designated the month of May as Maternal Mental Health Awareness Month recognizing the importance of maternal mental health as an issue of

great concern for new parents, their families and to the State of Minnesota. A need for heightened awareness and increased education of the incidence of pregnancy and postpartum mood and anxiety disorders as critical for all Minnesotans was noted. The proclamation also noted that “many women are not adequately informed about, screened, or treated for pregnancy and postpartum mood and anxiety disorders due to the misunderstanding of the disorder, individuals being uninsured or underinsured, or lack of knowledge where to receive care” (Dayton, 2015). (see Appendix E)

The current state of national healthcare places great emphasis on both prenatal and postnatal care. In the executive summary of The State of Health Care Quality 2010, rationale for importance of postpartum follow up recognized that the postpartum visit is a chance to perform postpartum depression screenings among other tests. This visit is cited as a chance for healthcare providers to converse with the mother to detect early problems with parenting skills. The postpartum visit is also opportunity for follow-up with any problems that occurred during pregnancy, such as maternal diabetes (National Committee of Quality Assurance, 2010). In addition, the postpartum visit is often the only follow-up visit a woman has with her own healthcare provider after the birth of her child or within the first year of her child’s life. The next time she seeks medical care for herself is often not until her annual well woman visit more than a year later. This further demonstrates the importance of the postpartum visit as possibly being an optimum opportunity to screen for and identify PPD as well as implement necessary observation and/or treatment for this condition.

Screening Tools

Several screening instruments have been validated for use during pregnancy and the postpartum period to assist with identifying patients with perinatal or postpartum depression. They include the Beck Depression Inventory, the Center for Epidemiologic Studies Depression Scale, the Postpartum Depression Screening Scale, the Patient Health Questionnaire 9 (PHQ-9), and the Edinburgh Postnatal Depression Scale (EPDS).

A review of the literature strongly suggests that the EPDS is the widely preferred screening tool. The EPDS is a ten item self-report scale that was created by Cox, Holden & Sagovsky (1987). This validated and well respected screening tool is utilized by many primary care providers, obstetricians and nurses across the United States to screen for PPD. The EPDS takes less than five minutes to complete through interview or self-report, has been translated into twelve languages, has a low required reading level, and is easy to score. It also includes questions regarding anxiety symptoms, which are a prominent feature of perinatal mood disorders, and excludes constitutional symptoms of depression. It is this exclusion of the constitutional symptoms that increases its specificity in screening for PPD. According to the EPDS the optimal time to screen for PPD is between two and six weeks postpartum but it can be used during the entire perinatal period (Bobo & Yawn, 2014; Pearlstein, Howard, Salisbury & Zlotnick, 2009). With the exception of the Patient Health Questionnaire 9 (PHQ-9) and the Edinburgh Postnatal Depression Scale, the other screening instruments have at least 20 questions and, thus, require more time to complete and to score and are rarely cited in the literature as used for PPD screening.

The EPDS and other screening tools available should not be considered a substitute for a detailed clinical interview and diagnostic tests where indicated. They can

however provide a consistent approach and initial screening point for all postpartum women to help begin further conversation and assessment of symptoms. With early and effective recognition of PPD, prompt treatment and intervention can be initiated to optimize therapy and ideally long term outcomes from this common and sometimes fatal problem (Angstman, 2013; Bobo & Yawn, 2014; Truitt, Pina, Person-Rennell & Yawn et al., 2012). Healthcare professionals can increase health promotion and reduce suffering caused by PPD by providing appropriate education to individuals, employers, and policymakers on the harmful effects of postpartum depression (Selix, 2015).

Advanced Practice Nurses

Advanced practice nurses (APRNs) such as Family Nurse Practitioners (FNPs) are the primary care providers (PCPs) for millions of patients nationwide and are seeing more and more postpartum women in primary care settings. According to a report published by the U.S. Department of Health and Human Services (2013, November), if the system for delivering primary care in 2020 were to remain fundamentally the same as today, there will be a projected shortage of 20,400 primary care physicians. The report goes on to recognize that under a scenario in which primary care nurse practitioners and physician assistants (PAs) are fully integrated into health care delivery, such as patient-centered medical homes that emphasize team-based care, the projected shortage of 20,400 primary care physicians in 2020 could be reduced to 6,400 primary care providers (HRSA, 2013).

In a study of the screening practices of Family Nurse Practitioners (FNPs) done by Goldsmith (2007), results showed that while 84% of the responding FNPs saw at least one postpartum visit yearly, 42% did not screen for postpartum depression in any way.

The Translating Research into Practice for Postpartum Depression (TRIPPD) effectiveness study (2012) was a large practice-based effectiveness study that sought to determine the effect of a practice based training program for screening, diagnosis and management of depression in postpartum mothers. Of the 2,343 women enrolled, 654 had elevated postpartum screening scores on the EPDS. These women were more likely to receive an appropriate diagnosis and therapy for postpartum depression which correlated to lower depressive symptoms at six and twelve months postpartum (Yawn et al., 2012). The effect of developed screening programs for PPD on clinical outcomes however, may depend on a variety of factors including availability of adequate mental health resources, important non-clinical services such as transportation, child care, care management, lactation and parenting support, as well as insurance coverage (Bobo & Yawn, 2014).

The significance of postpartum depression is multifactorial with implications for women and children across the country and around the world. With implementation of standardized screening and focused efforts by healthcare providers, especially APRNs on early recognition of PPD, appropriate treatment can be implemented early to ensure improved outcomes for women, children and the entire family.

Project Purpose

The DNP capstone was implemented at a rural medical center in the Midwest after noting that no standardized practice for PPD screening was currently in place at the center. The overall goal for this DNP capstone was to as improve provider and nurse awareness of PPD and its negative effects, identify the importance of routine PPD screening, and implement a standardized screening tool for PPD within the center.

The outcomes for the capstone were:

1. To increase staff comfort and knowledge about PPD and screening practices by 50% as evidenced by results of a pre and post-test given at a staff educational session held on January 28th, 2015.
2. To increase the use of the EPDS by 25% as evidenced by its documented use in the electronic health record (EHR) at a woman's postpartum visit in the center.

Design and Methods

Population

The DNP capstone focused on a population of postpartum women ages 18 years or older treated at a rural medical center in the Midwest. These postpartum women were evaluated between four and eight weeks following the birth of her child or at their scheduled postpartum visits at the center, which typically occurred at six weeks postpartum.

Education

Prior to capstone implementation, a retrospective chart audit evaluated documented rates of postpartum depression screening in patients' charts from November 1, 2014, to January 30, 2015. The study began with a one-hour educational session conducted by the DNP student investigator for physicians, nurse practitioners and nurses held on January 28, 2015. Participants were informed about the DNP capstone process and given postpartum depression information including statistics, current treatment guidelines and recommendations for early intervention as well as the most current treatment options. Screening instruments were discussed and the EPDS was introduced as the instrument of choice for the DNP capstone. Participants were educated on

appropriate use of the EPDS, as well as correct scoring of the tool and how to document results in the electronic health record (EHR). It should be noted that the EPDS was already available within the center's clinic, but the DNP student investigator needed to work with the informational technology staff to make it more provider friendly and easier for providers to access and complete during this process.

A second, additional educational session was held with the clinics registered nurse (RN) health coaches. The RN health coaches are in charge of evaluating providers' clinic schedules on a daily basis as part of the Medical Home Model and were key stakeholders in the entire capstone process. Medical home is a team based collaborative approach to healthcare that provides comprehensive and continuous medical care to patients with the goal of obtaining maximum health outcomes, particularly in the areas of chronic disease (American Academy of American Physicians, 2015). This education session included an overview of the study and allowed for questions to be asked specific to their roles in the capstone process. The RN health coaches agreed to identify scheduled postpartum visits and bring a copy of the EDPS tool to the nurse or provider reminding them of the visit and encouraging use of the screening tool on a daily basis. The tool was given to the patient during the start of their clinic visit and collected by the provider or nurse when the patient completed it. The tool was then electronically entered into the EHR by the provider, the nurse or the RN health coach depending on each providers' preference. There was almost daily communication between the DNP student and the RN health coaches allowing for continued engagement and support during implementation.

Recruitment

All nursing staff and providers in the center were invited to the educational session via email. Direct communication was also used with the DNP student investigator and providers who were working on the day of the educational presentations. A voluntary pre and post-test with implied consent was given during the first educational session to all in attendance. This pre and post-test was used to assess both comfort and knowledge in relation to postpartum depression, discussion of PPD with patients, as well as comfort with familiarity and use of the EPDS (See Appendix B). Collected demographic data included identification of clinical role and whether or not the provider or nurse saw patients in their clinical role for postpartum visits.

Methods

The capstone used a one-group pre/post intervention design to investigate whether physician, APRN, and nurse participation in an educational session related to screening for PPD with the EPDS would improve PPD screening at a rural Midwest health center. The one group design was chosen for this study due to the small size of the clinic and the number of providers participating. The educational session and materials were made available to all providers and appropriate nursing staff at the clinic to whom it would be applicable.

Following the educational session the implementation of the standardized screening took place from February 1, 2015, through April 30, 2015. Even though the educational session was completed on January 28, 2015, the RN health coaches did not start screening providers' schedules and distributing the EPDS to providers and nurses until the start of the capstone implementation on February 1, 2015. During the three-month capstone period it was requested that all patients presenting to the clinic for a

postpartum visit were to be screened for postpartum depression with use of the Edinburgh Postnatal Depression Scale.

Data Collection

Results of completed screening tools were then entered into patients' electronic medical records by the provider, nursing staff or RN health coaches. Following the three-month period of data collection, a second retrospective chart review was completed to determine the number of patients who presented for postpartum visits during the study time frame and how many were screened for postpartum depression using the EPDS. These outcome objectives were measured through both primary ordinal data and nominal secondary data. Data on providers' and nurses' current understanding, comfort and knowledge levels regarding postpartum depression as well as the Edinburgh postnatal depression tool, was collected from the pre and post-tests given at the initial educational session for staff. An Excel spreadsheet created by the DNP student was used to record retrieved data (see Appendix H). Post intervention screening data was then compared to baseline screening data obtained prior to the staff educational session and implementation.

Protection of Human Subjects

Protection of human subjects was of paramount importance. The Institutional Review Boards at both the center where the project took place and the University of North Dakota deemed this project to be exempt and approved the research project proposal. Data collected through both retrospective chart reviews was done by either the project coordinator or IT staff. The data was entered onto spreadsheets with no patient identifiers being recorded to protect confidentiality. Spreadsheets and questionnaires were kept in a locked file at the clinic during the entire duration of data collection and project

implementation. All electronic data was kept on a secure office computer that was password protected and only accessible by the DNP student. Standard IRB protocol will be followed for the data storage.

Results and Interpretation

The staff educational session was attended by 24 participants, with 24 completing some or all of the pre-test and post-test survey. Of those participants, twenty (83.3%) identified themselves as nurses and four (16.7%) identified themselves as providers. Also, ten of twenty-four participants (41.7%) indicated that they did see postpartum patients. Four of twenty-four (16.7%) indicated familiarity of the Edinburgh Postpartum Depression Scale. Following the educational session, 100% of participants indicated familiarity with the tool, indicating a six-fold increase.

The pre-test and post-test evaluation consisted of a combination of yes/no questions, and a five-point Likert scale that was used to identify whether or not respondents participated in the care of postpartum patients; their familiarity with the Edinburgh Postpartum Depression Scale; and their comfort levels with its use, interpretation of results and discussion of postpartum depression with patients. To determine changed or improved comfort and knowledge in these areas, three questions on the pre-test were asked at the completion of the educational session for a post-test comparison. The single-group pre-test and post-test design was used to document which areas of comfort and knowledge improved.

At the start of the educational session only eleven participants indicated that they were familiar with the EPDS. Prior to the educational session, four out of eleven (36.4%) participants indicated that they were either somewhat comfortable or very comfortable

using a postpartum evaluation tool; following the educational session, twenty-three out of twenty-four participants (95.8%) indicated that they were either somewhat comfortable or very comfortable using a postpartum evaluation tool, indicating a 163.5% increase.

Using the test for a difference between proportions (with the Yates' continuity correction), these pre-test and post-test percentage differences for practitioner comfort with the EPDS was statistically significant ($p = .0003$).

Prior to the educational session, fourteen of the twenty-one participants (66.7%) reported feeling either somewhat comfortable or very comfortable discussing postpartum depression with patients and three participants indicated they were not at all comfortable. Following the educational session, twenty of twenty-four participants (83.3%) reported that they felt either comfortable or very comfortable discussing postpartum depression with patients. Using the test for a difference between proportions (with the Yates' continuity correction), these pre-test and post-test percentage difference for practitioner comfort with the discussing PPD was not statistically significant ($p = .1710$).

In a retrospective chart audit conducted from November 1, 2014, to January 31, 2015, there were 57 documented postpartum visits to this particular clinic, none of which showed documentation using the Edinburgh Postnatal Depression Scale. At the completion of the study, a follow-up review was conducted from February 1, 2015, to April 31, 2015, during which time there were 43 recorded postpartum visits. Nineteen (44%) of those visits had documented evidence of the Edinburgh postnatal depression tool in the electronic health record.

Strengths and Limitation

Stakeholder Buy-In

There were several key stakeholders identified throughout the capstone process. The buy in and support from the RN health coaches was paramount not only for successful implementation of the EPDS but for continuity and consistency of daily operations. They worked side by side with the DNP student investigator had a genuine vested interest in improving care for the patients they serve. The nurses, providers and administrators of the clinic were also strongly supportive of this capstone. They had a vested interest throughout the entire planning, education and implementation of the study. Information technology staff assisted in a variety of collaborative ways with the DNP student. They aided in the educational materials development though help with tips and tricks in navigation of the EHR and more efficient use of the EPDS electronically. They collaboratively worked with the DNP student to aid with data collection and provided ongoing support throughout the entire capstone process.

Organization

The health care organization also provided great support to the DNP student investigator and readily accommodated the DNP capstone. There was no charge to use the facility for the educational sessions and the organization also covered the cost of lunch for staff who attended the lunch-n-learn session. The information technology staff also gave their time to aid in data retrieval as well as provided assistance with troubleshooting documentation questions and assistance with retrieval and input of patients completed EPDS in the EHR.

Compliance with State Recommendations

The current state of healthcare in this nation and Minnesota's proactive approach to quality postpartum care for women have highlighted the need to become more aware

of PPD and more diligent about screening for this condition. This DNP capstone followed the same trend and provided an excellent opportunity for providers to participate in standardized screening for PPD. No current standard for routine PPD screening existed in this center prior to this DNP capstone. This capstone demonstrated the collaborative efforts that are needed among healthcare providers at local and state levels to make an impact in identifying PPD.

Limitations

One limitation of the DNP capstone was the short time frame for data collection. Data collection was limited to three months. A longer timeframe would have allowed for more postpartum visits to the clinic and in turn a larger number of data for analysis. Another limitation was a lower than anticipated turnout of providers at the staff educational lunch-n-learn session where the pre and post-test was administered. It was anticipated that up to nine providers would attend. A variety of reasons for the low attendance were identified including providers completing hospital rounds, providers out of clinic on the date of the educational session or scheduling conflicts. Those who were unable to attend but who see postpartum women in the clinic were briefed individually by the DNP student on the study but did not complete the pre and post-test evaluation.

Due to not having full Institutional Review Board (IRB) approval, the coordinator was unable to see the exact impact the screening had on patients. Information on resulting interventions such as whether a medication was started, mental health referral took place, or what follow up was recommended was not able to be part of the data collection. It would provide a greater demonstration of the benefit of screening if such data could have been obtained. Unfamiliarity with the use of the EPDS within the

electronic health record was a limitation as well. Staff indicated during the educational session they were not aware that the EPDS was available within the EHR. Another limitation may have been that patients very likely could have been screened, but scores may not have been logged into the electronic medical record. If the visit type was not coded as a postpartum visit or the ICD-9 code of V24.2, data retrieval may have been somewhat inaccurate as these are the visit types that were used by Information Technology staff to retrieve postpartum visit information during the designated timeframe.

Implications and Future Direction

This capstone was a pilot study that laid the groundwork for future implementation for PPD screening to be integrated as standard of care within the healthcare organization both at a local and system wide level. There were no unexpected findings as a result of this study. This DNP capstone is an excellent example of how increased rates of screening for postpartum depression can result from PPD education and implementation of a standardized screening protocol and tool. Steps are being taken to continue this screening practice and staff has reported that some providers have continued the screening as a routine part of their practice. The data demonstrated a 0% documented screening rate prior to implementation of the project suggesting that screening was not taking place. The evidence is significant enough to promote the move for PPD screening as a standard of care change in this clinical practice.

It will be suggested to local leadership that this screening practice be made the standard of care at this facility as well as other facilities within the larger organization. Education will continue to be provided to staff as needed with updated information

regarding postpartum depression, screening recommendations and any additional needs that may be indicated by staff regarding screening for PPD.

This clinical practice change has implications for future projects. The next step will be implementation of what is known as a ‘best practice alert’ for postpartum depression screening built into patients’ electronic medical records. This will entail an automatic prompt to appear on the computer screen whenever a provider initiates documentation for a postpartum visit. This is currently done for depression screening, colon cancer screening, mammography and vaccination reminders. Advanced Practice Nurses are in an optimal position to influence positive clinical changes at the local, state, and national levels due to their extensive clinical experience, exceptional communication skills, and expertise in evidence based practice. Their passion can be utilized to identify gaps in health care services and organizations, and to fill these gaps with positive clinical changing practices such as that discussed in this capstone. This DNP student has plans to disseminate this study at American College of Nurse Midwives’ 61st annual meeting and an abstract has already been submitted for review.

Conclusion

This DNP capstone highlights the need for a standardized approach for postpartum depression screening in the rural Midwest health care setting, especially given the current state of healthcare and state of Minnesota’s laws relating to PPD. A vast array of research exists recognizing postpartum depression as a national problem with many negative implications for the mother, her child and family. The application of a consistent screening practice by health care providers has great potential to help alleviate

some of those problems and assist in the diagnosis and treatment of this psychologically devastating and sometimes fatal problem.

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Appendix A

Edinburgh Postnatal Depression Scale¹ (EPDS)

Name: _____ Address: _____

Your Date of Birth: _____

Baby's Date of Birth: _____ Phone: _____

As you are pregnant or have recently had a baby, we would like to know how you are feeling. Please check the answer that comes closest to how you have felt **IN THE PAST 7 DAYS**, not just how you feel today.

Here is an example, already completed.

I have felt happy:

- ☐ Yes, all the time
☒ Yes, most of the time This would mean: "I have felt happy most of the time" during the past week.
☐ No, not very often Please complete the other questions in the same way.
☐ No, not at all

In the past 7 days:

- | | |
|--|--|
| <p>1. I have been able to laugh and see the funny side of things</p> <p><input type="checkbox"/> As much as I always could
 <input type="checkbox"/> Not quite so much now
 <input type="checkbox"/> Definitely not so much now
 <input type="checkbox"/> Not at all</p> <p>2. I have looked forward with enjoyment to things</p> <p><input type="checkbox"/> As much as I ever did
 <input type="checkbox"/> Rather less than I used to
 <input type="checkbox"/> Definitely less than I used to
 <input type="checkbox"/> Hardly at all</p> <p>*3. I have blamed myself unnecessarily when things went wrong</p> <p><input type="checkbox"/> Yes, most of the time
 <input type="checkbox"/> Yes, some of the time
 <input type="checkbox"/> Not very often
 <input type="checkbox"/> No, never</p> <p>4. I have been anxious or worried for no good reason</p> <p><input type="checkbox"/> No, not at all
 <input type="checkbox"/> Hardly ever
 <input type="checkbox"/> Yes, sometimes
 <input type="checkbox"/> Yes, very often</p> <p>*5. I have felt scared or panicky for no very good reason</p> <p><input type="checkbox"/> Yes, quite a lot
 <input type="checkbox"/> Yes, sometimes
 <input type="checkbox"/> No, not much
 <input type="checkbox"/> No, not at all</p> | <p>*6. Things have been getting on top of me</p> <p><input type="checkbox"/> Yes, most of the time I haven't been able to cope at all
 <input type="checkbox"/> Yes, sometimes I haven't been coping as well as usual
 <input type="checkbox"/> No, most of the time I have coped quite well
 <input type="checkbox"/> No, I have been coping as well as ever</p> <p>*7. I have been so unhappy that I have had difficulty sleeping</p> <p><input type="checkbox"/> Yes, most of the time
 <input type="checkbox"/> Yes, sometimes
 <input type="checkbox"/> Not very often
 <input type="checkbox"/> No, not at all</p> <p>*8. I have felt sad or miserable</p> <p><input type="checkbox"/> Yes, most of the time
 <input type="checkbox"/> Yes, quite often
 <input type="checkbox"/> Not very often
 <input type="checkbox"/> No, not at all</p> <p>*9. I have been so unhappy that I have been crying</p> <p><input type="checkbox"/> Yes, most of the time
 <input type="checkbox"/> Yes, quite often
 <input type="checkbox"/> Only occasionally
 <input type="checkbox"/> No, never</p> <p>*10. The thought of harming myself has occurred to me</p> <p><input type="checkbox"/> Yes, quite often
 <input type="checkbox"/> Sometimes
 <input type="checkbox"/> Hardly ever
 <input type="checkbox"/> Never</p> |
|--|--|

Administered/Reviewed by _____ Date _____

¹Source: Cox, J.L., Holden, J.M., and Sagovsky, R. 1987. Detection of postnatal depression: Development of the 10-item Edinburgh Postnatal Depression Scale. *British Journal of Psychiatry* 150:782-786 .

²Source: K. L. Wisner, B. L. Parry, C. M. Piontek, Postpartum Depression N Engl J Med vol. 347, No 3, July 18, 2002, 194-199

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Edinburgh Postnatal Depression Scale¹ (EPDS)

Postpartum depression is the most common complication of childbearing.² The 10-question Edinburgh Postnatal Depression Scale (EPDS) is a valuable and efficient way of identifying patients at risk for "perinatal" depression. The EPDS is easy to administer and has proven to be an effective screening tool.

Mothers who score above 13 are likely to be suffering from a depressive illness of varying severity. The EPDS score should not override clinical judgment. A careful clinical assessment should be carried out to confirm the diagnosis. The scale indicates how the mother has felt **during the previous week**. In doubtful cases it may be useful to repeat the tool after 2 weeks. The scale will not detect mothers with anxiety neuroses, phobias or personality disorders.

Women with postpartum depression need not feel alone. They may find useful information on the web sites of the National Women's Health Information Center <www.4women.gov> and from groups such as Postpartum Support International <www.chss.iup.edu/postpartum> and Depression after Delivery <www.depressionafterdelivery.com>.

SCORING

QUESTIONS 1, 2, & 4 (without an *)

Are scored 0, 1, 2 or 3 with top box scored as 0 and the bottom box scored as 3.

QUESTIONS 3, 5-10 (marked with an *)

Are reverse scored, with the top box scored as a 3 and the bottom box scored as 0.

Maximum score: 30
Possible Depression: 10 or greater
Always look at item 10 (suicidal thoughts)

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Instructions for using the Edinburgh Postnatal Depression Scale:

1. The mother is asked to check the response that comes closest to how she has been feeling in the previous 7 days.
2. All the items must be completed.
3. Care should be taken to avoid the possibility of the mother discussing her answers with others. (Answers come from the mother or pregnant woman.)
4. The mother should complete the scale herself, unless she has limited English or has difficulty with reading.

¹Source: Cox, J.L., Holden, J.M., and Sagovsky, R. 1987. Detection of postnatal depression: Development of the 10-item Edinburgh Postnatal Depression Scale. *British Journal of Psychiatry* 150:782-786.

²Source: K. L. Wisner, B. L. Parry, C. M. Piontek, Postpartum Depression N Engl J Med vol. 347, No 3, July 18, 2002, 194-199

Appendix B

Postpartum depression

Your participation is voluntary and part of a DNP research study by Elizabeth Jahn, NP. You can choose not to participate or you may stop your participation at any time without penalty or loss of benefits to which you are otherwise entitled.

Your decision whether or not to participate will not affect your current or future relations with Sanford Health

Please choose one answer for each question below (check only one box for each question):

1. I am a provider ☐ I am a nurse ☐
Other ☐

100. Do you see patients for postpartum visits?

☐ Yes ☐ No ☐ Unsure

100. Do you utilize a specific screening modality for postpartum depression?

☐ Yes ☐ No ☐ I do not see postpartum patients

4. Are you familiar with the Edinburgh postpartum depression screening tool?

☐ Yes
☐ No

5. If yes are you comfortable with how to use and interpret its results

☐ Very comfortable ☐ Somewhat comfortable ☐ Neutral ☐ Not comfortable at all

6. Are you comfortable with discussing postpartum depression with patients?

☐ Very comfortable ☐ Somewhat comfortable ☐ Neutral ☐ Not comfortable at all

Do not complete until the completion of the educational session

7. Are you familiar with the Edinburgh postpartum depression screening tool?

☐ Yes

☐ No

8. If yes are you comfortable with how to use and interpret its results

☐ Very comfortable ☐ Somewhat comfortable ☐ Neutral ☐ Not comfortable at all

9. Are you comfortable with discussing postpartum depression with patients?

☐ Very comfortable ☐ Somewhat comfortable ☐ Neutral ☐ Not comfortable at all

For the following questions, please indicate your agreement or disagreement with the following statements:

10. I feel that all women should be screened for postpartum depression

☐ Strongly Disagree ☐ Mildly Disagree ☐ Neutral ☐ Mildly Agree ☐ Strongly Agree

11. What is you or the provider you work with current practice for postpartum depression screening

Thank you for your completion of this survey.

Questions or concerns can be relayed to

Elizabeth Jahn

Elizabeth.jahn@sanfordhealth.org

Appendix C

Task	Nov 2014	Dec 2014	Jan 2015	Feb 2015	Mar 2015	Apr 2015	May 2015	June 2015	July 2015
IRB Approval	x								
Retrospective Chart Review	x	x	x						
Staff education			x						
Implementation of screening				x	x	x			
Retrieve I Data							x		
Review Data							x	x	
Project Evaluation						x	x	x	
Organizational approval	X								

Appendix D

Q1: I am ____.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Provider	4	16.7	16.7	16.7
	Nurse	20	83.3	83.3	100.0
	Total	24	100.0	100.0	

Q2 Pre: Do you see patients for postpartum visits?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	10	41.7	41.7	41.7
	No	14	58.3	58.3	100.0
	Total	24	100.0	100.0	

Q3 Pre: Do you utilize a specific screening modality for postpartum depression?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	1	4.2	4.2	4.2
	No	17	70.8	70.8	75.0
	I do not see postpartum patients	6	25.0	25.0	100.0
	Total	24	100.0	100.0	

Q3 Pre: Are you familiar with the Edinburgh postpartum depression screening tool?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	4	16.7	16.7	16.7
	No	20	83.3	83.3	83.3
	Total	24	100.0	100.0	

Q4 Post: Are you familiar with the Edinburgh postpartum depression screening tool?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	24	100.0	100.0	100.0

Q5 Pre: If “yes” (to Q5), are you comfortable with how to use and interpret its results?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Not Comfortable at All	3	12.5	27.3	27.3
Valid Neutral	4	16.7	36.4	63.6
Valid Somewhat Comfortable	1	4.2	9.1	72.7
Valid Very Comfortable	3	12.5	27.3	100.0
Total	11	45.8	100.0	
Missing System	13	54.2		
Total	24	100.0		

Q5 Post: If “yes” (to Q5), are you comfortable with how to use and interpret its results?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neutral	1	4.2	4.2	4.2
Valid Somewhat Comfortable	9	37.5	37.5	41.7
Valid Very Comfortable	14	58.3	58.3	100.0
Total	24	100.0	100.0	

Q6 Pre: Are you comfortable with discussing postpartum depression with patients?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Not Comfortable at All	1	4.2	4.8	4.8
Valid Neutral	6	25.0	28.6	33.3
Valid Somewhat Comfortable	8	33.3	38.1	71.4
Valid Very Comfortable	6	25.0	28.6	100.0
Total	21	87.5	100.0	
Missing System	3	12.5		
Total	24	100.0		

Q6 Post: Are you comfortable with discussing postpartum depression with patients?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	4	16.7	16.7	16.7
	Somewhat Comfortable	10	41.7	41.7	58.3
	Very Comfortable	10	41.7	41.7	100.0
	Total	24	100.0	100.0	

Appendix E



STATE of MINNESOTA

Proclamation

- WHEREAS:** Maternal mental health is an issue of great concern to new mothers and fathers and their families and physicians and is, therefore, of interest to the state of Minnesota; and
- WHEREAS:** Many women are not adequately informed about, or screened or treated for pregnancy and postpartum mood and anxiety disorders because they are uninsured, underinsured, lack access to comprehensive health care, or lack understanding of the disorder or where to go for care; and
- WHEREAS:** Heightened awareness and increased education of the incidence of pregnancy and postpartum mood and anxiety disorders is critical for all Minnesotans. Pregnancy and postpartum mood and anxiety disorders affect all categories of women and teenage girls regardless of age, race, or income level. New fathers are also afflicted and impacts on the family can be debilitating and profound, contributing significantly to adverse developmental and behavioral outcomes and attachment disorders in the young children of affected women and men; and
- WHEREAS:** Pregnancy and postpartum mood and anxiety disorders are highly treatable with therapeutic intervention, community-based supportive services, and medication; and
- WHEREAS:** It is critical that service providers and community support systems that interface with new mothers and fathers have a greater understanding of pregnancy and postpartum mood and anxiety disorders and critical factors in identifying mothers at risk in order to provide prompt diagnosis, treatment, and proper community-based services that work together to facilitate recovery.

NOW, THEREFORE, I, MARK DAYTON, Governor of Minnesota, do hereby proclaim the month of May 2014, as:

MATERNAL MENTAL HEALTH AWARENESS MONTH

in the State of Minnesota.



Mark Ritchie
SECRETARY OF STATE

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Great Seal of the State of Minnesota to be affixed at the State Capitol this 10th day of February.

Mark Dayton
GOVERNOR